PATENT   Atty Docket No.: 200310012-1
                                                    App. Ser. No.: 10/769,137

IN THE CLAIMS:

Please find below a listing of all of the pending claims. The statuses of the claims are set forth in parentheses.

1. (Currently Amended) A method for extracting demographic information, comprising:

initiating a dialog between a contact and a call handling system;

selecting a set of demographic characteristics;

assigning a set of acoustic confidence scores to the demographic characteristics;

assigning a set of substantive confidence scores to the demographic characteristics, wherein assigning substantive confidence scores includes:

presenting the contact with a set of multiple choice questions associated with the demographic characteristics;

collecting a set of responses to the multiple choice questions from the contact, wherein the set of responses includes a choice that the contact selected from the multiple choices;

comparing the contact's responses to a predefined body of multiple choice question responses associated with the set of demographic characteristics; and

assigning a set of multiple choice confidence scores to the demographic characteristics based on the comparison;

combining the acoustic, multiple choice, and substantive confidence scores for each of the demographic characteristics; and

tailoring information presented to the contact using the set of combined confidence scores.

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2. (Original) The method of claim 1, wherein assigning substantive confidence scores includes:

> presenting the contact with a first substantive dialog;

> collecting a set of responses to the first substantive dialog from the contact;

> comparing the contact's responses to a predefined body of responses associated with the set of demographic characteristics; and

> assigning a first set of substantive confidence scores to the demographic characteristics.

3. (Original) The method of claim 2, wherein presenting includes:

> continuing to present the contact with the substantive dialog until one of the substantive dialog confidence score reaches a predetermined value.

4. (Original) The method of claim 2, wherein presenting includes:

> continuing to present the contact with the substantive dialog until a predetermined time period has expired.

5. (Original) The method of claim 2, wherein presenting includes:

> presenting the substantive dialog to the contact when the contact is placed on hold.

6. (Original) The method of claim 2, wherein assigning substantive confidence scores includes:

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presenting the contact with a second substantive dialog, in response to a request from the call handling system;

collecting a set of responses to the second substantive dialog from the contact;

comparing the contact's responses to the predefined body of responses associated with the set of demographic characteristics; and

assigning a second set of substantive confidence scores to the demographic characteristics.

7. (Original) The method of claim 1, wherein assigning substantive confidence scores includes:

presenting the contact with a probing dialog;

collecting a set of responses to the probing dialog from the contact;

comparing the contact's responses to a predefined body of probing dialog responses associated with the set of demographic characteristics; and

assigning a set of probing dialog confidence scores to the demographic characteristics.

8. (Original) The method of claim 7, wherein presenting includes:

asking the contact a set of questions associated with the demographic characteristics.

9-10. (Canceled).

11. (Original) The method of claim 1, wherein assigning acoustic confidence scores includes:

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extracting an acoustic feature from the contact's speech signal; and

comparing the feature to a predefined body of speech signal features associated with
the set of demographic characteristics.

12. (Original) The method of claim 1, wherein combining includes:

weighting the confidence scores using ground truth data.

13. (Original) The method of claim 1, wherein weighting includes:

adjusting a first confidence scores weight for a given demographic characteristic if the
first confidence score differs from a second confidence score for that given demographic
characteristic by a predetermined amount.

14. (Original) The method of claim 1, wherein combining includes:

multiplying together the confidence scores for each demographic characteristic.

15. (Original) The method of claim 1, wherein combining includes:

combining the confidence scores for each demographic characteristic according to the
following formula:

$$S(C_i) = \sum_{j=1}^{N} r_j p_{ij}$$ (where N is a total number of classifiers, Ci is the i'th

demographic characteristic, and Pij is a confidence score for Ci generated by

Classifier j, and r_j is trained weights).

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16. (Original) The method of claim 1, wherein combining includes:

combining the confidence scores from each classifier for each demographic characteristic according to the following formula:

$$S(C_i) = \prod_{j=1}^{N} p_{ij}^{r_j}$$ (where N is a total number of classifiers, Ci is the i'th

demographic characteristic, and Pij is a confidence score for Ci generated by Classifier j, and r_j is trained weights).

17. (Original) The method of claim 1, wherein combining includes:

using a neural net to combine the confidence scores for each demographic characteristic.

18. (Original) The method of claim 17, wherein the neural net is a Multiple Layer Perception (MILP) network.

19. (Original) The method of claim 1, wherein tailoring includes:

identifying a sub-set of the demographic characteristics having combined confidence scores exceeding a predetermined set of thresholds; and

presenting the contact with information specifically directed to contacts having the sub-set of demographic characteristics.

20. (Original) The method of claim 19, wherein the predetermined threshold is equal to a highest combined confidence score.

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21. (Original) The method of claim 1, wherein the demographic characteristics include gender, age, accent, and stress level.

22. (Currently Amended) A method for extracting demographic information, comprising:

initiating a dialog between a contact and a call handling system;

selecting a set of demographic characteristics;

assigning a set of acoustic confidence scores to the demographic characteristics;

assigning a set of substantive confidence scores to the demographic characteristics;

combining the acoustic and substantive confidence scores for each of the demographic characteristics;

tailoring information presented to the contact using the set of combined confidence scores;

presenting the contact with a probing dialog;

collecting a set of responses to the probing dialog from the contact;

comparing the contact's responses to a predefined body of probing dialog responses associated with the set of demographic characteristics;

assigning a set of probing dialog confidence scores to the demographic characteristics;

presenting the contact with a set of multiple choice questions;

collecting a set of responses to the multiple choice questions from the contact, wherein the set of responses to the multiple choice questions includes a choice that the contact selected from the multiple choices;

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comparing the contact's responses to a predefined body of multiple choice question

responses associated with the set of demographic characteristics; and

assigning a set of multiple choice confidence scores to the demographic

characteristics.

23. (Currently Amended) A computer-readable usable medium embodying computer

program code for commanding a computer to extract demographic information, comprising:

initiating a dialog between a contact and a call handling system;

selecting a set of demographic characteristics;

assigning a set of acoustic confidence scores to the demographic characteristics;

assigning a set of substantive confidence scores to the demographic characteristics, wherein

assigning the set of substantive confidence scores includes:

presenting the contact with a set of multiple choice questions associated with

the demographic characteristics:

collecting a set of responses to the multiple choice questions from the contact,

wherein the set of responses includes a choice that the contact selected from the

multiple choices:

comparing the contact's responses to a predefined body of multiple choice

question responses associated with the set of demographic characteristics; and

assigning a set of multiple choice confidence scores to the demographic

characteristics based on the comparison;

combining the acoustic, multiple choice, and substantive confidence scores for each

of the demographic characteristics; and

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tailoring information presented to the contact using the set of combined confidence scores.

24. (Currently Amended) A system for extracting demographic information, comprising a:

means for initiating a dialog between a contact and a call handling system; means for selecting a set of demographic characteristics:

means for assigning a set of acoustic confidence scores to the demographic characteristics;

means for assigning a set of substantive confidence scores to the demographic characteristics, wherein assigning a set of substantive confidence scores includes:

presenting the contact with a set of multiple choice questions associated with the demographic characteristics:

collecting a set of responses to the multiple choice questions from the contact, wherein the set of responses includes a choice that the contact selected from the multiple choices:

comparing the contact's responses to a predefined body of multiple choice question responses associated with the set of demographic characteristics: and

assigning a set of multiple choice confidence scores to the demographic characteristics based on the comparison:

means for combining the acoustic, multiple choice, and substantive confidence scores for each of the demographic characteristics; and

means for tailoring information presented to the contact using the set of combined confidence scores.

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25. (Currently Amended) A system for extracting demographic information, comprising:

an Interactive Voice Response module for initiating a dialog between a contact and a call handling system, and selecting a set of demographic characteristics;

an acoustic classifier for assigning a set of acoustic confidence scores to the demographic characteristics;

a substantive classifier for assigning a set of substantive confidence scores to the demographic characteristics; and

a data combiner for combining the acoustic and substantive confidence scores for each of the demographic characteristics;

a multiple choice classifier for assigning a set of multiple choice confidence scores to the demographic characteristics, wherein assigning the set of multiple choice confidence scores includes:

presenting the contact with a set of multiple choice questions associated with the demographic characteristics;

collecting a set of responses to the multiple choice questions from the contact, wherein the set of responses includes a choice that the contact selected from the multiple choices;

comparing the contact's responses to a predefined body of multiple choice question responses associated with the set of demographic characteristics; and

wherein the Interactive Voice Response module further tailors information presented to the contact using the set of combined confidence scores.

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26. (Currently Amended) The system of claim 25, wherein the substantive classifier

includes:

a probing dialog classifier for assigning a set of probing dialog confidence scores to

the demographic characteristics;~and

~~a multiple-choice-classifier-for-assigning-a-set-of-multiple-choice-confidence-scores-to~~

~~the demographic characteristics.~~

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